

REMARKS

Upon entry of the present amendment, claims 36-46 and 48-51 are pending in the above-referenced patent application and are currently under examination. Claims 36 and 40 have been amended. Claims 1-35 and 47 have been canceled. Claims 41, 42, 45, 46 and 48 have been withdrawn. Reconsideration of the application is respectfully requested.

Support for the amendment to “acceptor sugar” can be found in the specification at page 10, lines 11-12 (paragraph [0042]) and at page 17, lines 26-27 (paragraph [0068]). Support for the amendment to “sugar nucleotide” can be found in the specification at page 7, lines 16-17 (paragraph [0032]). Additional amendments to claim 36 find support in claim 36 as filed, and in paragraphs [0033] and [0035] of the specification. Support for the amendments can be found throughout the specification.

Applicants believe no new matter has been added by the amendments to the claims.

Applicants would also like to thank the Examiner and the Examiner’s Supervisor for their time and constructive comments in the Examiner Interview on April 24, 2007.

The claims are rejected in various combinations under 35 U.S.C. §§ 102(b) and 103(a). Each of these rejections and objections is addressed below in the order set forth by the Examiner.

I. REJECTION UNDER 35 U.S.C. § 102(b) BY SAMBANDAM

Claims 36 and 49 have been rejected under 35 USC § 102(b) as allegedly being anticipated by Sambandam *et al.* Applicants respectfully traverse the rejections in view of the comments below.

A claim is considered to be anticipated under 35 USC § 102(b) if “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.” In order for a claim to be anticipated by a reference, the reference must teach every element of the claim (MPEP § 2131):

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

As discussed in detail below, the presently claimed invention is not anticipated in view of any of the cited references as all the references fail to teach every element set forth in the claims of the instant invention.

Sambandam et al. discloses the use of a glycogen phosphorylase, as opposed to the glycosyltransferase of the amended claims. In accord with discussions during the Examiner Interview, the claims have been amended to clarify that the “acceptor substrate” is an “acceptor sugar” and that the “donor substrate” is a “sugar nucleotide.” Applicants note that the Examiner recognized during the Examiner Interview that these clarifying amendments merely highlight the differences between the *glycosyltransferase* of the instant invention and the *phosphorylase* of *Sambandam et al.*

Applicants submit that *Sambandam et al.* fails to disclose a method of identifying an inhibitor of a glycosyltransferase that transfers a *sugar nucleotide* to an acceptor *sugar*, where the glycosyltransferase comprises an active site comprising hydrophobic amino acids that interact with a *sugar substrate*. As *Sambandam et al.* fails to teach all the elements of the amended claims, the instantly amended claims are not anticipated under 35 U.S.C. § 102(b) by *Sambandam et al.* Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection.

II. REJECTION UNDER 35 U.S.C. § 103(a) OVER QIAO, RABINA, SOUSA AND CHUNG

Claims 36-40, 43, 44, 47, 49 and 50 have been rejected under 35 USC § 103(a) as allegedly being obvious over *Qiao et al.* in view of *Rabina et al.*, *Sousa et al.* and *Chung et al.* Applicants respectfully traverse the rejection in view of the comments below.

A claim is considered obvious “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

which said subject matter pertains” (35 USC § 103(a)). Several elements are necessary in order to make a *prima facie* case of obviousness (MPEP § 2143):

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Accordingly, in order for the claims of the instant application to be obvious in view of the cited art, the prior art reference (or combination of references) must (1) teach or suggest the claim elements; (2) provide some suggestion or motivation to modify the reference in order to teach all of the above elements; and (3) provide a reasonable expectation of success of making a compound of the instant application. As discussed in detail below, none of the cited references satisfies all three requirements under MPEP § 2143.

As discussed in the Examiner Interview, claim 36 has been amended to more clearly describe the glycosyltransferase and the fact that the active site of the glycosyltransferase comprises hydrophobic amino acids that interact with a sugar substrate. The Examiner recognized during the Examiner Interview that these clarifying amendments merely highlight elements of the present invention and that these elements are not disclosed or suggested by any of the cited art, individually or in combination.

The combination of Qiao *et al.*, Rabina *et al.*, Sousa *et al.* and Chung *et al.* fails to disclose or suggest a method of identifying an inhibitor of a glycosyltransferase wherein “the glycosyltransferase comprises an active site comprising hydrophobic amino acids that interact with a sugar substrate.” (Amended claim 36.) The Examiner alleges that Sousa *et al.* teaches that hydrophobic amino acids in the active site of glucosyltransferase forms part of the recognition mechanism for the enzyme activity (Office Action page 4, citing Abstract of Sousa *et al.*). Applicants note, however, that the hydrophobic amino acids of Sousa *et al.* are *not* actually present on the *glycosyltransferase* as required by amended claim 36, but rather on the *glycoprotein substrate*.

As the combination of Qiao *et al.*, Rabina *et al.*, Sousa *et al.* and Chung *et al.* fails to disclose or suggest all the elements of the amended claims, the instant claims are not obvious


under 35 U.S.C. § 103(a). Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,


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